ROKONET

ORBIT-14

Installation Manual

Important Notice

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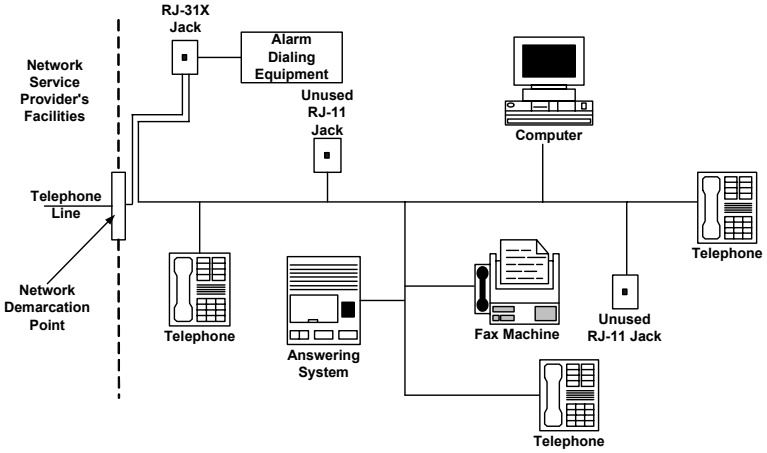
Customer Information

TELEPHONE CONNECTION (Ref.: FCC Part 68)

1. This equipment, Alarm Control Panel, brand named Orbit-14 (RP214MA0000A), complies with Part 68 of the FCC Rules and the requirements adopted by the ACTA. On the bottom panel of this equipment is a label that contains among other information, a product identifier in the format US:RKEAL10BRP214MA. If requested, this number must be provided to the telephone company.
2. This equipment is designed to be connected to the telephone network using a terminal block, which is Part 68 compliant and properly installed RJ31X connector. See Installation Instructions for details.
3. The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. The REN of alarm system is part of the product identifier that has the format US:RKEAL10BRP214MA.
4. If the Alarm Control Panel causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, you will be notified as soon as possible. Also, you will be advised of your right to file a compliant with the FCC if it is necessary.
5. The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.
6. If trouble is experienced with the Alarm Control Panel, for repair or warranty information please contact Rokonet Industries USA Inc 2822 NW 79th Ave. Miami, Florida 33122 USA, phone number 305 592 3820, URL: sales@rokonetusa.com.
   If the equipment is causing harm to the telephone network, the telephone company may request to disconnect the equipment until the problem is resolved.
7. The control panel installation is described in the Installation Manual. Connection to telephone company provided coin service is prohibited. Connection to party lines service is subject to state tariffs.
8. Alarm Control Panel must be able to seize the telephone line and place a call in an emergency situation. It must be able to do this even if other equipment (telephone, answering system, computer modem, etc.) already has the telephone line in use. To do so, the alarm control panel must be connected to a properly installed RJ31X jack that is electrically in series with and ahead of all other equipment attached to the same telephone line. Proper installation is depicted in the figure below. If you have any questions concerning these instructions, you should consult your telephone company or a qualified installer about installing the RJ31X jack and Alarm Control Panel for you.



Customer Premises Equipment and Wiring

RADIO FREQUENCY INTERFERENCE (Ref.: FCC Part 15, Para. 15.105)

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and the receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced Radio/TV technician for help.

CHANGES OR MODIFICATIONS (Ref.: FCC Part 15, Para. 15.21 and 15.27)

Changes or modifications to this unit not expressly approved by Rokonet, Ltd., could void the user's authority to operate the equipment.

CE Declaration of Conformity

We, the undersigned,

ROKONET ELECTRONICS LTD.
RISHON LEZION, HACHOMA ST. 14
ISRAEL
PHONE: (972) 3 9616555
FAX: (972) 3 9616584

Certify and declare under our sole responsibility that the following equipment:

Brand	Type	Product Description
Orbit -14	RP214MC0000A	Control Panel with wired accessories (including cables)

was tested to and conforms with the requirements included in following standards:

Standard	5/1999/EC Article	Note
EN 60950:00	3(1)(a)	1
EN 301 489-3 v.1.2.1	3(1)(b)	1
EN 50130-4:95+A1 (98)	3(1)(b)	1
TBR21:98+ETSI EG 201 121 v.1.1.3	/	2

Note 1: Full Orbit 14 system.
Note 2: Main unit (additionally).

and therefore complies with the requirements and provisions of the Council **Directive 1999/5/EC** of the European Parliament and of the council of 9 march 1999 on Radio equipment and Telecommunications Terminal Equipment and the mutual recognition of their conformity and Annex III (Conformity Assessment procedure referred to in article 10(4)).

20 February 2003
David Kartoun
CTO

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Introduction to the ORBIT-14

The **ORBIT-14** is a fully featured security system, providing solutions for alerting and reporting premises alarm signals.

The **ORBIT-14** addresses the needs of many homes, offices, and small businesses. Its operation is designed around microprocessor and EEPROM (Electrically Erasable Programmable Read-Only Memory) technology, which stores the system's operating program and its programmable parameters, without the need for a source of power.

System programming may be performed from any **ORBIT-14** keypad, or from an LCD Programming Keypad designed specifically for this purpose.

Remote and local system programming is also possible through the use of Rokonet's Upload/Download software.

Main Features

Zones

- 14 Programmable Intrusion Zones
- 12 zones on main board using zone doubling.
- 2 zones on keypad
- 3 Keypad Emergency Zones (Panic, Fire, Special Emergency)

Alarm Sounder Output

- Programmable Bell/Siren or Loudspeaker Output
- Capacity: 900 mA (maximum)

Auxiliary Output for Peripheral Devices

- Capacity 600 mA MAX from all AUX terminals

Built-In Digital Communicator

- For Central Station communications (two phone numbers), Upload/Download functions and follow-me functions

Keypads

- Up to five LED/LCD keypads can be connected

Utility Outputs

- 1 relay output 3A
- 1 transistor-driven (open-collector) 500 mA triggered output
- 1 transistor-driven (open-collector) 70 mA triggered output
- Expandable to six outputs

Security Codes

- 2 Installer Codes
- 1 Master (User) Code
- 19 Codes (all may be used as duress code)

Periodic Testing

- Daily test report to central station

Optional Peripherals

- Four relay-output expansion modules
- Voice Module

Event Log

- Event log of 250 events

Tamper Protection

- Box Tamper input (NC)
- Bell Tamper input (using 2.21 KΩ resistor)
- Keypad Tamper (Wall & cover)

Automatic Arming

- Daily automatic arming

Orbit 14 Main Panel Types:

P/N	Description
RP214MA0000A	Orbit 14 Main Panel. Telephone impedance 600Ω. Complies with FCC Part 68 regulation.
RP214MB0000A	Orbit 14 Main Panel. Telephone impedance 900Ω.
RP214MC0000A	Orbit 14 Main Panel. Complies with the TBR21: 98+ETSI EG 201 121 v.1.1.3 regulation.
RP214MZ0000A	Orbit 14 Main Panel. Complies with the local Czech telephony system requirements.

Technical Data

Main Panel

Input power	16.5 V AC 40 VA via transformer	
Rechargeable standby battery	12 V 7 A-Hours	
Auxiliary Power	12 V DC 600 mA maximum	
Bell/LS Sounder output	12 V DC 900 mA maximum	
Programmable outputs	1 X Relay output 3A	
	1 X Open collector Active pull down 500 mA maximum	
	1 X Open collector Active pull down 70 mA maximum	
Cabinet Dimensions:	296.2 X 262.3 X 87.5 mm (11.66 X 10.32 X 3.44")	
Weight	2.4 kg (5.29lb)	
Main Board (dimensions / weight):	96 X 185 mm (3.77 X 7.28 ")	0.23Kg (0.51 lb)
Fuses	F1: Battery Power	3.15 A
	AUX	Automatic fuse
	Bell	Automatic fuse

Keypads

	6 / 8-Zone Keypad	**14-Zone Keypad**	**LCD Keypad**
Current consumption:	18 mA typical, 30 mA maximum	18 mA typical, 37 mA maximum	75mA maximum
Control panel connections:	4-wire up to 300 ft (100 m) from panel	4 -wire up to 300 ft (100 m) from panel	4 -wire up to 300 ft (100 m) from panel
Dimensions:	110X130X25 mm (4.33 X 5.11 X 1")	110X130X25 mm (4.33 X5.11X 1")	162 X 122 X 30 mm (6.37 X 4.8 X 1.18")
Weight:	0.19 kg (0.42 lb)	0.19 kg (0.42 lb)	0.25kg (0.55 lb)

Utility Output Expansion Module

	Relay row
Current consumption:	10mA typical, 50mA max
Control panel connections:	4-wire up to 300 ft (100m) from panel
Contacts:	1 relay 3A, 3 relays 0.5 A, 24 V DC
Dimensions:	53X85 mm (2.1X3.35")
Weight:	80 gr (0.18 lb)

Expansion Voice Module

Input Power:	12 V DC
Current consumption:	6 mA, typical / 26 mA maximum
Dimensions:	66 X 66 X 18 mm (2.59 X 2.59 X 0.70")
Weight:	20.44 gr (lb)

NOTES:

For proper operation it is recommended to connect the voice module at least 20 cm from the main panel.

Max. Run Length from Panel to Keypad

Wire	AWG	19	20	22
	Ø (mm)	0.9	0.8	0.6
Length	Meter	200	166	100
	Feet	660	547	330

Bell Loudspeaker Wiring Table (Distance in Feet)

AWG / Ø mm / Max. Current mA	18		19		20		22	
	1		0.9		0.8		0.6	
	Feet	Meter	Feet	Meter	Feet	Meter	Feet	Meter
100	780	238	625	190	495	151	310	95
300	260	79	208	64	165	50	103	32
650	120	37	96	30	76	23	48	15

Detectors Distance in Feet

AWG / Ø mm / Max. Current mA	18		19		20		22		24	
	1		0.9		0.8		0.6		0.5	
	Feet	Meter	Feet	Meter	Feet	Meter	Feet	Meter	Feet	Meter
20	3920	1195	3100	945	2460	750	2460	472	1550	296
30	2600	793	2060	628	1640	500	1640	314	1030	197
40	1960	597	1550	472	1230	375	1230	236	775	148

Installation

Before You Begin

Be sure the actual work is performed by experienced personnel, licensed to carry out security system installations and capable of implementing all applicable requirements of the National Fire Protection Association (NFPA-70 and NFPA-74), as well as any federal, state, and local codes – along with any safety guidelines and regulations which might apply.

Mounting the Control Panel

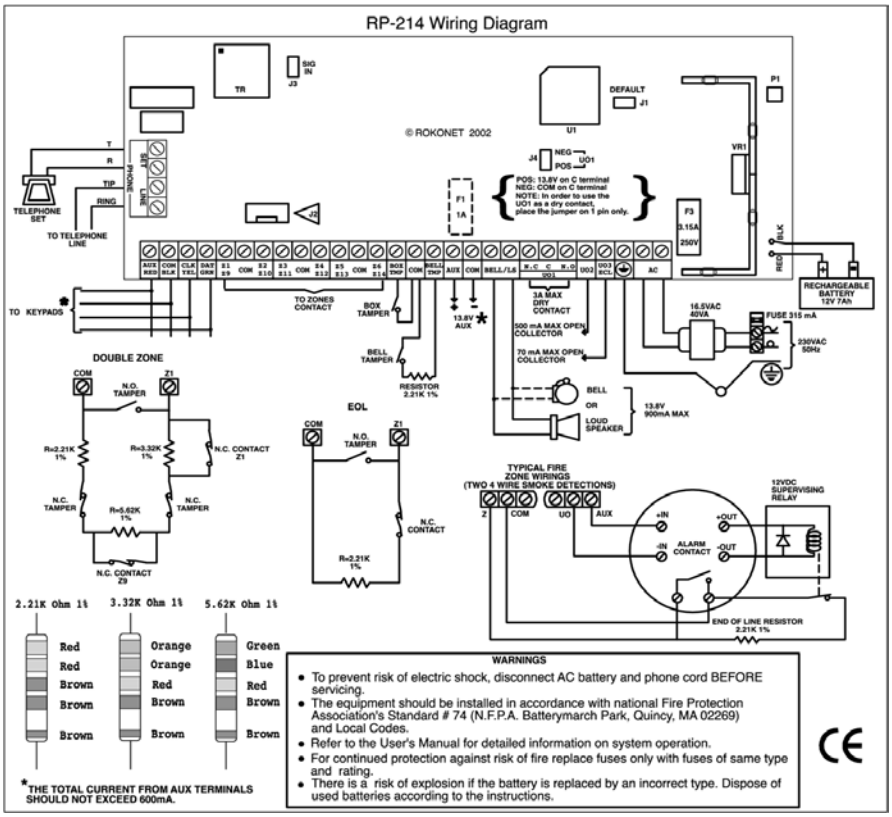
1. Mount the ORBIT-14's metal cabinet at a protected dry location, near a source of unswitched AC Power, a good ground, and access to telephone service. Use the proper hardware (e.g., anchors, toggle bolts), as required, to insure a suitable mounting.
2. Thread all electrical wiring through a convenient hole in the metal cabinet. To prevent potential damage, be sure that live AC power is NOT present and that the Standby Battery is NOT connected. (Refer to page 8). Your wiring may include any and all of the following:
   - Connections to Hardwired Zones
   - Connections to devices requiring Uninterrupted Auxiliary Power (e.g., PIRs, Glass Break Detectors)
   - Connections to Smoke Detectors requiring Reset table Power
   - Connections to any External Sounders
3. Have a Standby Battery ready (typically 12 VDC, 7 AH), but do not connect it at this time.
4. If using a Key-switch, use a momentary key-switch. The receiver (if used) must give a pulse output and not on/off.

Safety Warnings

- When the panel is powered, mains voltage is present on the main PCB. To prevent risk of electric shock, disconnect all power (AC transformer and battery) and phone cord before servicing. On no account should mains power be connected to the PCB other than the main terminal block.
- For AC mains connection, a readily accessible disconnect device shall be incorporated in the building installation wiring.
  - For continued protection against risk of fire, replace fuses only with fuses of the same type and rating
- There is a risk of explosion if the battery is replaced by an incorrect battery type. Dispose of used batteries according to the instructions. (The control panel is designed to work with a 12 volt, 7 Amp-hour sealed lead battery as a back up for the primary power supply.)

- Do not short the terminals of the transformer together. This causes the internal fuse to blow. The transformer must be connected to a 230 VAC 24-hour outlet, which must be controlled by an approved over-current protection device.
- The control is designed with reverse polarity protection on the battery charging circuit; however, prolonged improper connection of the battery to the control panel results in damage. Power should remain disconnected until all connections have been made and checked for accuracy.

Wiring the Main Panel

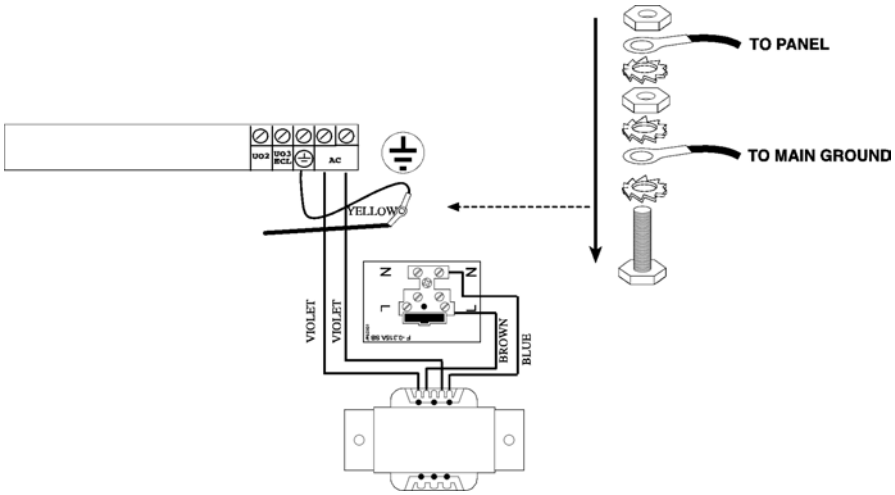

RP-214 Wiring Diagram
© ROKONET 2002
TELEPHONE SET
TO TELEPHONE LINE
TO KEYPADS
TO ZONES CONTACT
BOX TAMPER
BELL TAMPER
RESISTOR 2.21K 1%
13.8V AUX *
3A MAX DRY CONTACT
500 mA MAX OPEN COLLECTOR
70 mA MAX OPEN COLLECTOR
BELL OR LOUD SPEAKER
13.8V 900mA MAX
16.5VAC 40VA
FUSE 315 mA
230VAC 50Hz
RECHARGEABLE BATTERY 12V 7Ah
DOUBLE ZONE
EOL
TYPICAL FIRE ZONE WIRINGS (TWO 4 WIRE SMOKE DETECTIONS)
12VDC SUPERVISING RELAY
ALARM CONTACT
END OF LINE RESISTOR 2.21K 1%
2.21K Ohm 1% Red Red Brown Brown Brown
3.32K Ohm 1% Orange Orange Red Brown Brown
5.62K Ohm 1% Green Blue Red Brown Brown
* THE TOTAL CURRENT FROM AUX TERMINALS SHOULD NOT EXCEED 600mA.
WARNINGS
To prevent risk of electric shock, disconnect AC battery and phone cord BEFORE servicing.
The equipment should be installed in accordance with national Fire Protection Association's Standard # 74 (N.F.P.A. Batterymarch Park, Quincy, MA 02269) and Local Codes.
Refer to the User's Manual for detailed information on system operation.
For continued protection against risk of fire replace fuses only with fuses of same type and rating.
There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Connecting to Ground (Earth)

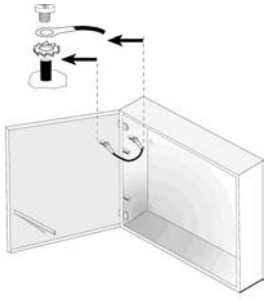
Connect the metal box and the door of the metal box to mains earth (ground), as shown in the diagrams below. Refer also to *What Makes a Good Ground*, page 9.

IMPORTANT:

Connecting to ground must be performed according to the applicable local or national electrical codes.



Grounding the Metal Box



What Makes a Good Ground?

Grounding provides a degree of protection against lightning and induced transients for any piece of electronic equipment that may, due to lightning or static discharge, experience permanent or general malfunctions. The ideal *ground* is considered to be a *unified earth ground* in which an 8-foot copper-clad rod, located close to the existing power and telephone ground rods, is sunk several feet into the earth. Appropriate hardware and clamps are then used to electrically connect each of these rods together and then to the ground terminal of the device to be protected.

It may be possible to use an existing electrical ground on the premises if one is close enough to the Main Panel. Ideally, that ground can be obtained at the metal service panel where the incoming electrical power originates. When connecting the ground wire, use a solid 14-gauge wire [or larger (numerically *lower*) size] connected between the ORBIT-14's GND terminal and an acceptable electrical ground connection. Keep this wire as short as possible and do not run it in conduit, coil it, bend it sharply, or run it alongside other wiring. If you must bend it or change its direction, it should have a radius of at least 8 inches at the point from which it is bent. If in doubt, you may want to enlist the help of a licensed electrician.

Telephone Line Connection

These lines are typically derived from an installed RJ31X jack.

To connect telephone lines:

1. Connect the incoming telephone line to the Main Panel's **LINE** terminals.
2. Connect any telephone on the premises to the **SET** terminals.

Connecting AC Power

Connect the 230V AC to the mains fuse input terminal block (via 16.5VAC 40VA transformer) and fasten the AC cord to the metal box using adjustable clamps.

NOTES:

DO NOT apply main power at this time.

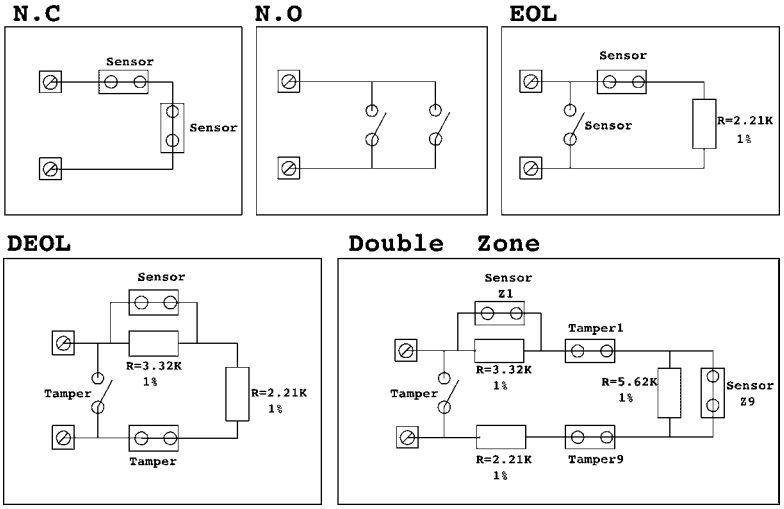
Be sure to connect the live wire of the AC power through the AC fuse.

Do not plug in the transformer at this time.

Zone Connections

Connect each zone to the appropriate zone terminal and its related COM terminal. Each pair of zones shares a COM terminal.

The following diagram illustrates the various possible zone connections:



NOTES:

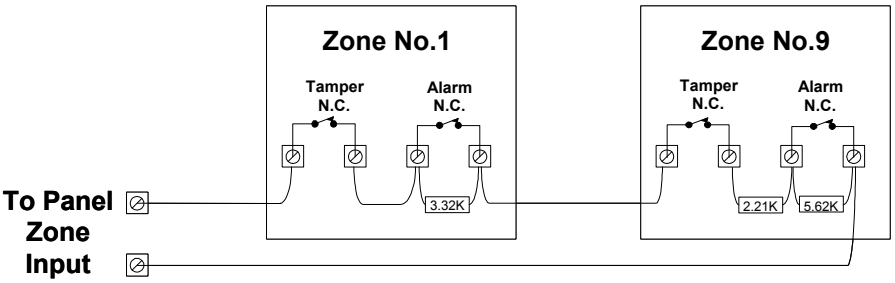
For zones defined as EOL, use 2.21 KΩ resistors (supplied).
By default all zones are defined as EOL termination.

The Double End Of Line (DOEL) configuration allows a detector tamper switch, if violated, to register a tamper condition at the panel without the need for a separate connection to a designated tamper zone.

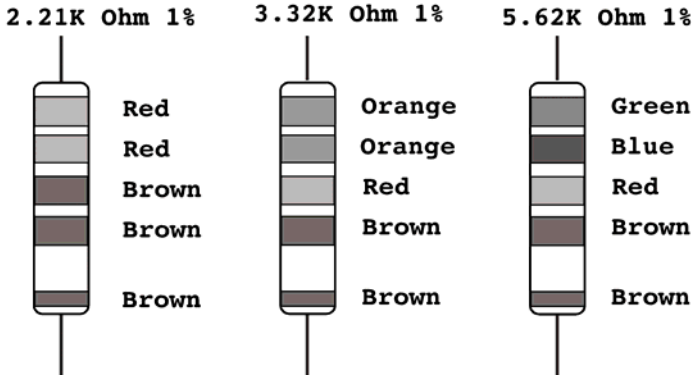
Only zones 1-6 can be defined as DEOL. Zones 9-14 are not valid in this configuration.

Double Zone Wiring

Zone doubling is used to connect two separate zones on one input. Use the following diagram for appropriate connection. The tamper alarm will be the same for both of the zones.



For double zone wiring use the supplied resistors.



NOTES:

The location of the resistors is crucial. Any change in the resistors' location will adversely affect the correct zone identification. Zones 1-6 must be applied with the 3.32KΩ resistor. Zones 9-14 must be applied with the 2.21 KΩ and 5.62 KΩ resistors.

Zones 7 and 8 cannot be defined as double zone termination.

Wiring Auxiliary Devices

Use the **Auxiliary Power AUX (+) COM (-)** terminals to power PIRs, glass-break detectors (4-wire types), smoke detectors, audio switches, photoelectric systems and/or any device that requires a 12V DC power supply.

NOTES:

The total power from the **AUX** terminals should not exceed 600mA.

To connect a 4-wire smoke detector or devices that require resetting after an alarm condition, connect the Auxiliary power **AUX** and UO terminals (refer to page 8 for smoke detector wiring). Remember to define the UO as Switched Auxiliary (refer to page 31).

In addition, when connecting a 4-wire smoke detector observe the wiring guidelines of the local requirements applicable to smoke detectors.

To prevent a possible drop in voltage due to current requirements and distances involved, make sure to use the appropriate wire gauge.

If the auxiliary outputs are overloaded (exceed 600mA) and are shut down, you must disconnect all loads from the outputs for a period of at least 10 seconds before you reconnect any load to the auxiliary outputs.

Bell Tamper

The bell tamper is a tamper input that is terminated by an EOL resistor (2.21 KΩ). If the line is cut or shorted, the alarm is turned on.

Connect the bell tamper to the BELL TMP and COM terminals on the main panel.

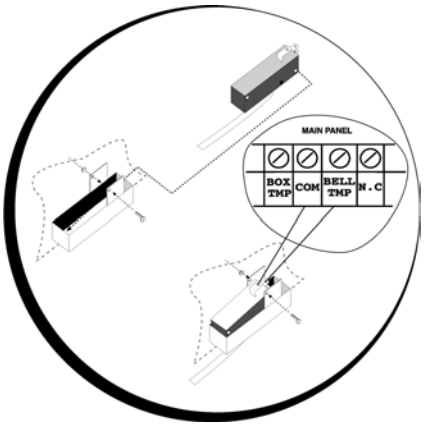
Box Tamper

The box tamper is a tamper input (NC - normally closed) for the metal box, which protects both sides of the box. This means that if the box is opened or removed from the wall, the tamper opens and turns on the alarm.

Connect the box tamper to the BOX TMP and COM terminals on the main panel.

NOTE:

For Bell and Box tamper supervision, connect the tamper switches before applying the main power to the system.



Utility Output Connections

The ORBIT-14 main panel includes three Utility Outputs on board: 1 relay 3Amps, 1 500mA transistor and 1 open collector 70 mA transistor which can be used for switching an external device on or off or reset a “latched” smoke detector(s). Once the Utility Output (UO) is activated the device will be connected between AUX (+12V) and ground (0V).

Wiring the external Utility Outputs:

UO1: Refer to the J4 connector instructions, described below.

UO2-UO6: Connect the positive connection of the device to **AUX (+)** and the negative connection to the UO's **(-)** terminals.

NOTES:

When activated the Utility Output is switched to the Negative Polarity.

When the UO is used to reset a “latched” smoke detector(s), the 12V power to the smoke detector is supplied via the UO (see page 8). The UO should be defined as AUX switch (see page 31).

Connecting the Utility Output Expansion Module

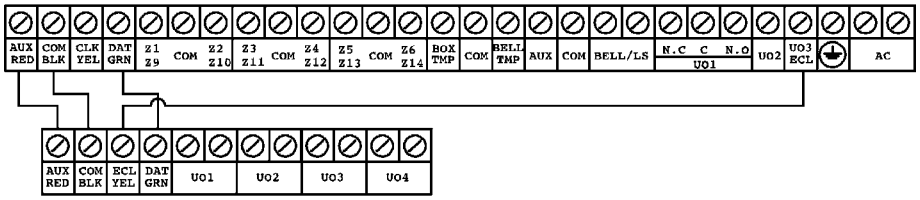
If more than three UOs are required, a Utility Output Expansion module is available. The UOs on the expansion module comprise four relays; three relays that allow maximum current of 500 MA each, and one relay that allows maximum current of 3A.

When the Utility Output Expansion Module is employed, UO3 on the Main Board (the UO3/ECL terminal) is no longer available. UO1 on the Utility Output expansion module becomes UO3 in the system.

To connect the Utility Output expansion module, connect the terminals as follows:

Panel	BUS TERMINALS			
UO Expansion Module terminals	**AUX** **RED**	**COM** **BLK**	**ECL** **YEL**	**DAT** **GRN**
ORBIT-14 Main BUS	**AUX** **RED**	**COM** **BLK**	**UO3** **ECL**	**DAT** **GRN**

ORBIT 14 MAIN PANEL

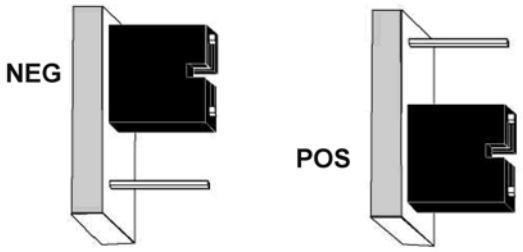


UO EXPANDER

NOTE:

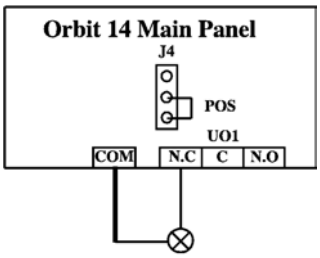
In order to use the Utility Output Expansion, you have to define the utility module in location 059 (see page 38)

Connecting the J4 Connector

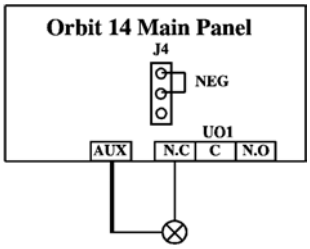


The J4 connector (jumper) determines the UO1 connection (behaviour), which is normally used for an external siren connection, as follows:

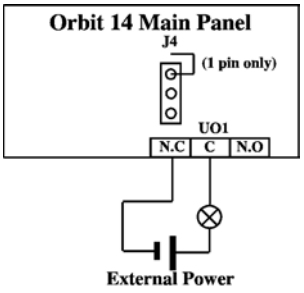
- **Positive (POS)**: When the J4 connector is placed on POS, the C terminal on UO1 receives 13.8V.



- **Negative (NEG)**: When the J4 connector is placed on **NEG**, the C terminal on UO1 receives COM.



- **Single pin**: If the J4 connector is placed **only on 1 pin**, the UO1 acts as a dry contact.



Keypad Connection

The ORBIT-14 can support up to five keypads. Each keypad consists of five wires and three terminal blocks (for the connection of zones 7 and 8).

NOTE:
The three terminal blocks are not applicable in a 6-LED keypad.

1. Connect four wires (Red, Black, Yellow, Green) from the keypad to the appropriate terminals on the main panel, according to the wire colours.
2. Each keypad has an additional white wire for the connection of a panic button. To connect the panic button, use the white wire as (+) and the black wire as (-).

NOTE:
The maximum distance between the panic button and the keypad is 30 meters.

3. Connecting zones 7 and 8: Zones 7 and 8, which are located on the keypads (except for the 6-LED keypad), are end-of-line supervised. If more than one keypad is connected to the system and zones 7 or 8 are used, the same zones in the other keypads must be shorted. Each zone can be used only once, in one of the keypads.

NOTE:
The short of a parallel zone must be done before powering the system.

Connecting the J3 SIG IN Connector (Signal in Voice Mail)

The J3 SIG IN voice connector enables the transfer of audio data between the Voice module and the phone line. For further instruction on the voice module, refer to the "Voice Module" documentation supplied with the product.

Installer Programming

The Keypad

The ORBIT-14 can support up to five keypads, with a choice of four styles (LCD, 6-LED, 8-LED and 14-LED types), from which virtually all features may be accessed. In addition to the functions it provides for the user, each of the keypads can be used by an installer to program the system parameters.

An attempt to enter an incorrect series of keystrokes will result in three error beeps.

All program location values (data) are displayed by zone indicators on the keypad's LEDs.

Restoring Factory Defaults to the ORBIT-14

1. Your **ORBIT-14** and at least one LED Keypad should already be wired together and/or physically installed.
2. Remove all power from the Printed Circuit.
3. Place the **ORBIT-14**'s J1 (DEFAULT) jumper over both corresponding pins. (Refer to page 8).
4. Reapply power (AC and/or Standby Battery) to the PC Board.
5. After a short beep is heard, remove the J1 jumper. The **ORBIT-14**'s default settings are now restored.
6. Check that the POWER LED is flashing. Depending on the state of the system, the READY LED and the Zone LEDs may or may not be lit.

Introduction to Programming

First, check that the panel's J1 (DEFAULT) jumper is NOT covering both pins on the PC Board.

The ORBIT-14 stores information in 168 programming locations. The data stored in any location is represented by numbers and/or letters. Some locations require just one digit, while most require two. Others may require several more digits (e.g. those used to store phone numbers and account numbers).

It is not necessary to enter data into all categories. Many locations have been factory-programmed with default parameters.

NOTE:

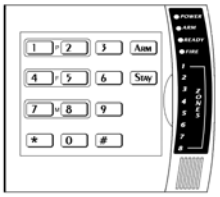
Power can be removed from the ORBIT-14, as its memory does not require a source of power to retain its information.

Programming Your ORBIT-14

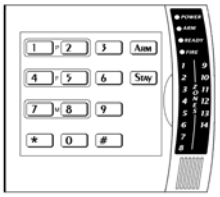
Programming Methods

Local	Requirements
LED or LCD keypads	The keypad must be wired to the ORBIT-14 panel. Power must be applied to the ORBIT-14.
ORBIT Programmer Easy programming of the control panel parameters with menu driven LCD display. The programmer can store up to 10 ORBIT-14 programming sets and copy them directly to the panel.	The programmer will be connected to and receive its power from the panel. P/N: RP214PR00XXA* *: XX represents the programmer language interface.
Local ORBIT UD* Local Up/Load Windows version from a personal computer.	The software must be installed and an ORBIT UD Adaptor cable is connected between the panel and the computer. P/N for the local adapters: RP214LU0000A: Local Bus Adapter. RP214USB000A: USB/RS232 Bus Adapter.
Remote ORBIT UD* Remote U/D Windows version from a personal computer.	The software and applicable modem with configured access to a telephone line must be installed.
* Compatible with Windows 95/98/2000 XP. (P/N RP128UD0000A)	

Viewing the Contents of a Location



It is often necessary to check the data stored in a memory location to ensure that it is correct. If improper data is found, it must be corrected in order to obtain the desired system response. The data in a location can either be a number (from 0-9) or a letter (from A-F), taking advantage of the hexadecimal numbering system. For our purposes, the characters A through F will be referred to as hexadecimal digits.



Whenever the Installer Programming mode is active, the first four Zone LEDs on the keypad (1-4) are used to reveal each digit in a selected location. By adding up the values assigned to the lit LEDs, the contents of any location can be determined. See the table below.

	ZONE LEDs			
Digit	4	3	2	1
0	OFF	OFF	OFF	OFF
1	OFF	OFF	OFF	**ON**
2	OFF	OFF	**ON**	OFF
3	OFF	OFF	**ON**	**ON**
4	OFF	**ON**	OFF	OFF
5	OFF	**ON**	OFF	**ON**
6	OFF	**ON**	**ON**	OFF
7	OFF	**ON**	**ON**	**ON**

	ZONE LEDs			
Digit	4	3	2	1
8	**ON**	OFF	OFF	OFF
9	**ON**	OFF	OFF	**ON**
A	**ON**	OFF	**ON**	OFF
B	**ON**	OFF	**ON**	**ON**
C	**ON**	**ON**	OFF	OFF
D	**ON**	**ON**	OFF	**ON**
E	**ON**	**ON**	**ON**	OFF
F	**ON**	**ON**	**ON**	**ON**

Example A: If Zone 4-ON, Zone 3-OFF, Zone 2-OFF, and Zone 1 ON, then the digit equals 9.

Example B: If Zone 4-ON, Zone 3-OFF, Zone 2-ON, and Zone 1 - ON, then the digit equals 8.

Locations Whose Contents Occupy More Than One Digit

When a location contains more than one digit, they cannot be viewed simultaneously. As soon as a location is accessed, the first digit is displayed automatically. Additional digits (if they exist) can be displayed by pressing the following keys on the LED keypads.:

STAY STAY — Used to display the next digit in a location containing at least two digits. For example, if 5-6-7-8 is stored in a location, the "5" is displayed first; when you press STAY STAY the "6" will be displayed. Continue this process to display the entire contents of the chosen location. Error beeps will be emitted if you attempt to display non-existent digits.

STAY ARM — Used to move backwards among the digits stored in a location containing at least two digits. Error beeps will be emitted if you attempt to display non-existent digits.

Audible Tones and Error Beeps

To confirm an operation, a single, long beep will be heard. However, any improper use of the keypad resulting in an error or an unacceptable response will produce three rapid beeps. If heard, repeat the operation or exit the programming mode and try again.

Programming Installer Parameters

1. To enter the Installer programming mode:
   Press the 4-digit Installer code followed by # (factory default **0 2 1 4**)
2. To move to a new location:
   Press the 3-digit location code followed by ARM.

3. To enter data into the location:
   Press data digits (0 - 9 digits including hexadecimal A-F) followed by #.

   Using your LED keypad, you can enter the hexadecimal digits A – F as follows:

To Enter	Press
A	[STAY] + [1]
B	[STAY] + [2]
C	[STAY] + [3]
D	[STAY] + [4]
E	[STAY] + [5]
F	[STAY] + [6]

4. To exit programming mode:
   Press the 4-digit installer code followed by ARM.

Programming Time Out

If after 10 minutes during the programming time, no entry is made to a keypad that has been used for the programming operations, it will produce an audible reminder, consisting of several beeps in rapid succession. Pressing on any key will stop the beeping and return to the programming mode.

Programming Tutorial

To help acquaint you with some programming basics, a short tutorial has been prepared. It involves changing the Installer Code from the factory default of **0-2-1-4** to a sequence of your own choosing. If you can master this operation, subsequent programming should be easy.

	Operation	Action	Comments
1	**Enter the Installer Programming mode**	Enter the factory default Installer Code (**0-2-1-4**); followed by **#**.	A long beep will sound, confirming successful entry into Installer Programming.
2	**Access the current Installer Code** (stored in location "008")	Press **[0]**, **[0,[8]**, **[ARM]**.	No confirming beep will sound.
3	**Enter a unique Installer Code** (for this tutorial, use 3-0-5-7)	Enter **[3]**, **[0]**, **[5]**, **[7]**.	No confirming beep will sound.
4	**Store the data** you have entered	Press **[#]**.	A long beep will sound confirming that data has been properly stored. If a wrong number of digits entered three (error) beeps will sound after pressing #.

<table>
<tr><th></th><th>Operation</th><th>Action</th><th>Comments</th></tr>
<tr><td>5</td><td>Check the data stored in Location “008”</td><td>•The first digit of the stored data is displayed.
•Observe the Zone LEDs.
•Press [STAY] [STAY] to advance to the next digit.
•Once all four digits have been displayed, attempts to view an additional digit will result in three (error) beeps.
•If desired, press [STAY] and [ARM] to move backwards.</td><td>
<table>
<tr><th>Press keys</th><th>Displayed</th><th>Zone LEDs lit</th><th>Value</th></tr>
<tr><td>none</td><td>1st digit</td><td>2, 1</td><td>3</td></tr>
<tr><td>STAY STAY</td><td>2nd digit</td><td>none</td><td>0</td></tr>
<tr><td>STAY STAY</td><td>3rd digit</td><td>3,1</td><td>5</td></tr>
<tr><td>STAY STAY</td><td>4th digit</td><td>3,2,1</td><td>7</td></tr>
</table>
</td></tr>
<tr><td>6</td><td>Go to another location of your choice</td><td>Press the desired 3-digit location and [ARM].</td><td>Press [ARM] alone to go to the next sequential location.</td></tr>
<tr><td>7</td><td>Exit programming</td><td>Enter your Installer Code and press [ARM]. (Only in the LED keypad)</td><td>A long beep will confirm your actions.</td></tr>
</table>

Programming Locations:

General System Parameters: Locations 000-005

Location: 000	Default Enable: Def: 00

To enable or disable the option of resetting the system to the factory defaults.

00	Enable the option of resetting the system to the factory defaults by shorting the default jumper on the PC board during power-up.
55	Disable the option of resetting the system to the factory defaults by using the default jumper.

Location: 001	MS Lock: Def: 000000

MS Lock is a security function used in conjunction with Rokonet's Upload/Download software. It provides greater proprietary security when viewing Central Station parameters.

The 6-digit code that will be stored in the panel must also be entered into the corresponding account profile created for the installation in the Upload/Download software. If there is no match between the MS Lock Code defined in the Main Panel and the MS Lock Code defined in the Upload/Download software, the Installer will not have permission to change the following Central Station parameters from the Upload/Download software: Installer Code, MS phone numbers, the MS Lock Code, and the Default Enable jumper.

It is NOT necessary to change the *MS Lock* default value within Installer Programming; instead, the procedure may be performed from the *Upload/Download Software* and then downloaded to the ORBIT-14.

Location: 002	Phone Number: Primary Central Station (Central Station 1)

The first Central Station phone number. Up to 32 alphanumeric characters can be defined as the phone number. To enter or replace the phone number required to reach the primary Central Station, include all access digits (e.g., 0 to 9) and the area code. If required, include the following special functions to achieve the effect listed in the table:

FUNCTION	SEQUENCE	RESULTS
Stop dialling and wait for a new dial tone	[STAY], [1]	A
Wait a fixed period before continuing	[STAY], [2]	B
Switch from *Pulse* to *Tone* (or from *Tone* to *Pulse*)	[STAY], [3]	C
Send the DTMF ✶ character	[STAY], [✶]	✶
Send the DTMF # character	[STAY], [#]	#

When your entry is complete, press **[#]** to store it. To delete an existing phone number, simply press the **[#]** key without any other digit or character.

Location: 003	Phone Number: Secondary Central Station (Central Station 2)

The second Central Station phone number. The definition is the same as in Location 002.

Location: 004	Callback UD Phone Number

This is a number to which the alarm company computer, equipped with the U/D software, will be connected and to which the ORBIT-14 will call back. This provides more security for U/D operations.

When a call is made from a computer, using U/D software, to the ORBIT-14 panel, the system will hang-up and call back using this UD phone number. Up to 32 digits can be entered into the U/D phone number. Include all the digits and functions as in Location 002. To delete an existing phone number, press **#**.

Location: 005	Account Number	Default: 0000

The system's Central Station Account Number. The ORBIT-14 accepts hexadecimal account numbers (those using 0 through 9 and A through F); use the key combinations below (in LED keypads only) to enter hexadecimal digits "A" through "F":

Hex digit	Press	Hex digit	Press
A	[STAY], 1	D	[STAY], 4
B	[STAY], 2	E	[STAY], 5
C	[STAY], 3	F	[STAY], 6

NOTE:

Use the "0" digit only to define account numbers with less than four digits. For example, for account number 123, enter 0123. In this case the ORBIT-14 will not send the "0" digit to the Central Station.

To use an account number with "0" digit, for example "1207", use the "A" digit instead of "0" digit. For example, for account number 1207, enter 12A7. The sequence of buttons will be: **[1][2][STAY][1][7]**

System Codes: Locations 006-010

Location: 006	Access Code	Default: 5678

Provides data security during Upload/Download operations. This Access Code must subsequently be entered into the corresponding account profile in the Upload/Download software. For successful communication, the Access Code must be the same for the both the Upload/Download software and the Main Panel.

Location: 007	Remote ID Code	Default: 0001

An ID Code that serves as an extension of the Access Code, described in the procedure above. The ID code provides data security during Upload/Download operations. This Remote ID Code must subsequently be entered into the corresponding account profile in the Upload/Download software. For successful communication, the ID Code must be the same for both the Upload/Download software and the Main Panel.

Location: 008	Installer Code I	Default: 0214

The installer code is a 4-digit code used by alarm company personnel authorized to modify the system's parameters. It is recommended to change the "factory default" Installer Code to one of your own choice.

Location: 009	Installer Code II	Default: 1214

A 4-digit code that identifies a technician sent by the installation company to carry out restricted tasks. Using this code, the sub-installer can access only those programming locations associated with the authority level defined in location 061(refer to page 41).

Location: 010	Master Code	Default: 1234

A 4-digit code used by the system's owner or chief user.

The Master Code provides the following special privileges:

- To enter, modify, and delete the remaining all User Codes
- To set the system's internal clock
- To perform certain system functions and tests

NOTE:

The Master Code cannot be seen by the installer through the zone LEDs on the keypad.

System Time Definitions: Locations 011-016

Location: 011	Exit Delay	Default: 030

Establishes the system's Exit Delay (the interval, in seconds, between entering a User Code at the keypad and when the system actually arms).

Enter the number of seconds (between 001 and 255).

Location: 012	Entry Delay	Default: 060

Establishes the system's Entry Delay (in an armed system, the interval, in seconds, between the moment an entry door is opened and an alarm is triggered).

Enter the number of seconds (between 001 and 255).

Location: 013	Bell Cutoff Time	Default: 04

Sets the interval that the system's external sounder(s) will operate during an alarm before it shuts off automatically.

Enter the number of minutes (between 01 and 90).

NOTE:

The keypad's buzzer operation is not affected by the Bell Cutoff time definition.

Location: 014	Bell delay	Default: 00

The time delay before the keypad sounder and the external sounder operates after the onset of an alarm.

Enter the number of minutes (between 00 and 90).

Periodic Test: Locations 015-016

The Periodic Test menu enables you to set the time period that the ORBIT-14 will automatically call the Central Station or Upload/Download phone numbers in order to check the phone line connection and the unit's digital communicator.

NOTE:

The Periodic Test cannot occur if the value of the Start Periodic Time or Periodic Test interval is set to zero.

Location: 015	Start Periodic Test	Default: 0000

Sets the start time of the periodic test. The chosen time is expressed in 24-hour format. Examples: 8:30 AM = 0830, 4:30 PM = 16:30.

NOTE:

If desired, you can disable the test transmission capability by entering the default (0000).

Entering the installation mode after the indicated time will defer the test transmission until the indicated periodic test time on the following day.

Location: 016	Periodic Test Interval	Default: 00

Sets the interval for periodic test reporting. Enter two digits between 00 and 99 hours.

NOTE:

If desired, you can disable the test transmission capability by entering the default 00 as the periodic test interval.

Zone Types and Sounds: Locations 017-030

Locations 017 through 030 are identical and correspond to Zones 1 through 14. Each of these locations contains two digits.

- **First digit**: Contains the number used to represent the Type of Zone desired.
- **Second digit**: Contains the number used to represent the sound produced when in alarm.

Locations: 017-030	Zone 1-14: (1st Digit): Zone Type
1st Digit	Zone Type and Comments
0	**Not Used** All unused zones should be given this designation. It is also used to disable a zone.
1	**24-Hour** Usually assigned to protect non-movable glass, fixed skylights or cabinets for shock detection systems. A violation of such a zone will always cause an instant intrusion alarm, regardless of the system's armed/disarmed state.

Locations: 017-030	Zone 1-14: (1st Digit): Zone Type
2	**Day Zone** Usually assigned to an infrequently used door, such as an emergency door or a movable skylight. Used to alert the system user if a violation occurs during the disarmed period (trouble by day; burglary at night), as follows: • With the system armed (either AWAY or Group), the zone acts as an instant zone. A violation of this zone after the system is armed or during the Exit Delay time period causes an immediate intrusion alarm. • With the system disarmed, a violation of this zone attempts to alert the user by causing the POWER LEDs on all keypads to flash rapidly. This directs the user to view the system's TROUBLE indications.
3	**Instant (Intrusion)** Usually intended for non-exit/entry doors, window protection, shock detection, and motion detectors. Causes an immediate intrusion alarm if violated when the system is armed or during the Exit Delay time period (Only in IMQ definition).
4	**Exit /Entry Delay** If violated, a zone with this designation will not cause an intrusion alarm during the Entry and Exit Delay periods.
5	**Exit (OPEN)/Entry** Such a zone behaves as described above in Entry/Exit Delay, except that if faulted at the time the system is armed, it will be bypassed and NOT prevents system arming. To avoid an intrusion alarm, however, the zone must be secured before the expiration of the Exit Delay period (Location 11).
6	**Entry Follower** Usually assigned to motion detectors and to interior doors protecting the area between the entry door and the keypad. This zone will cause an immediate intrusion alarm when violated unless an Entry/Exit zone was violated first. In such a case, an Entry Follower zone(s) will remain bypassed until the end of the Entry Delay period.
7	**Fire Zone** Intended for smoke or other types of fire detectors. If violated, will cause an immediate fire alarm. A short in the zone wiring will cause a fire alarm. A fault in the wiring to the zone will cause a Fire Trouble (fire LED blinks). A fire zone cannot be disabled or bypassed.
8	**Panic Zone** Used for external panic buttons and wireless panic transmitters. If violated an immediate panic alarm will be announced.
9	**Pulsed Key-switch Zone - Instant** If desired an external SPST spring - loaded, normally open, momentary type key switch can be added for system arming and disarming. The key switch permits an instant arm and disarming of the system after tripping.
A	**Pulsed Key-switch Zone - Delayed** This zone behaves similar to the **Pulsed Key-switch Zone - Instant**, described above, except that an exit delay will follow the arming of the system.
B	**Latch-Key-switch Zone – Instant:** If desired for system arming/disarming, connect an external SPST latching type (non-momentary) key-switch to any zone terminals, given this designation.

Locations: 017-030	Zone 1-14: (1st Digit): Zone Type
C	**Latch-Key-switch Zone – Delayed:** This zone behaves similar to the **Latched Key-switch Zone - Instant**, described above, except that an exit delay will follow the arming of the system.

Locations: 017-030	Zone 1-14: (2nd Digit): Zone Sound
2nd Digit	Zone Sound and Comments
0	**Silent** A violation during the armed period will produce no sound. The resulting alarm can still be reported to the Central Station.
1	**Bell only (Continuous)** Activates the external bell sounders to annunciate steadily without breaks in the sound cadence for the duration of the Bell Timeout period, or until the system is disarmed.
2	**Bell only (Pulses)** Activates the external bell sounders to produce a pulsed (or staggered) annunciation for the duration of the Bell Timeout period, or until the system is disarmed. This sound is usually recommended for fire alarm annunciation.
3	**Buzzer Only** Activates each keypad's internal buzzer to beep rapidly.
4	**Bell + Buzzer** Activates the bell sounders (consciously) and the keypads' buzzers simultaneously.
5	**Bell When Armed / Buzzer When Disarmed** Related to 24H zones. If an alarm occurs in disarm mode, the keypad's buzzer will be activated. If an alarm occurs in arm mode, the external Bell will be activated.
6,7	**Not Applicable**
8	**Silent: Chime on Disarm** Same as the **Silent** option, described above, except that when in Disarm mode the keypad's buzzer makes one momentary sounds (Door Chime) whenever the zone is violated.
9	**Bell only (Continuous): Chime on Disarm** Same as the **Bell only (Continuous)** option, described above, except that when in Disarm mode the keypad's buzzer makes one momentary sounds (Door Chime) whenever the zone is violated.
A	**Bell only (Pulses): Chime on Disarm** Same as the **Bell only (Pulses)** option, described above, except that when in Disarm mode the keypad's buzzer makes one momentary sounds (Door Chime) whenever the zone is violated.
B	**Buzzer Only: Chime on Disarm** Same as the **Buzzer Only** option, described above, except that when in Disarm mode the keypad's buzzer makes a momentary sound (Door Chime) whenever the zone is violated.
C	**Bell + Buzzer: Chime on Disarm** Same as the **Bell + Buzzer** option, described above, except that when in Disarm mode the keypad's buzzer makes a momentary sound (Door Chime) whenever the zone is violated.

Zone Type and Sound Default:			
Zone/s	**Location/s**	**Type**	**Sound**
Z1	017	(5)	(1)
Z2	018	(6)	(1)
Z3 – Z6	019 - 022	(3)	(1)
Z7-Z8	023 - 024	(0)	(0)
Z9 – Z14	025-030	(3)	(1)

Zone Response Time & Group Masking: Locations 031-044

Locations 031 through 044 are identical and are corresponding to zones 1 through 14. Each of these locations contains two digits:

- **First digit**: Contains the number used to represent the zones loop response that sets the minimum time for which a zone violation will trigger an alarm.
- **Second digit**: Contains the number used to represent to which group/s the zone will be assigned.

Locations 031-044	**Zone loop response + Group masking:**

1st Digit	**Loop response**
0 (Default)	400 ms
1	10 ms

2nd Digit	**Group masking**
0 (Default)	None
1	A
2	B
3	A + B
4	C
5	A + C
6	B + C
7	A + B + C

Zone Termination & Tamper Sound: Location 045

- **First Digit**: Determines the zone terminations. (NO – Normally Open, NC – Normally Closed, EOL – End of Line, DEOL – Double End Of Line, DZ – Double Zone). An explanation can be found on page 11. Default: EOL.

NOTE:

The termination of zones 7 and 8 is always EOL.

Only zones 1-6 can be defined as DEOL. In this configuration zones 9-14 are not valid.

- **Second Digit**: Sets the sound(s) produced by a tamper violation (Zone, Bell, Box, Keypad). The available sounds are: Silent, Bell only – Continuous, Buzzer only, Bell + Buzzer, and Bell in Arm/ Buzzer in Disarm.

1st Digit	Zone Termination
0 (Default)	EOL
1	NC
2	NO
3	DEOL
4	DZ

2nd Digit	Tamper Sound
0	Silent
1	Bell Only
2	Buzzer Only
3	Bell + Buzzer
4 (Default)	Bell in Arm / Buzzer in Disarm

Utility Outputs: Locations 046-051

The ORBIT-14 main panel includes three Utility Outputs (1 3Amps relay, 1 500 mA transistor and 1 open collector 70 mA transistor). These outputs help operate external devices in response to a number of system activities related to alarms, zones, any general system event or the actions of a particular user. A total of six Utility Outputs are available when the utility module expansion module is connected. You can choose the event that will trigger a selected Utility Output (UO), as well as the manner in which the output will be applied.

NOTE:

In order to use the Utility Output Expansion you need to define the module in location 059 on page 38.

If the Utility Output Expansion Module is used, UO3 on the main board is no longer available. The 1st UO on the expansion module will be referred to as UO3 in the system.

Digit	Event and Result
00	**Not Active** UO offers no response to any system activity
01	**Arm Follow (Latch)** UO is activated when the system is armed. The activation occurs after the expiration of the exit/delay period. The UO remains active (latched) while the system is armed. When disarming the system the UO deactivates (unlatches).

Digit	Event and Result
02	**Arm Follow (Pulse)** UO is activated when the system is armed. The activation occurs after the expiration of the exit/delay period. The UO is activated for several seconds (pulse), after which is deactivated.
03	**Alarm Follow (Latched – Restore on Bell Time out)** UO is immediately activated when the system goes into any type of alarm (i.e., intrusion, fire, keypad-initiated panic). UO deactivates at after the system's bell "times out".
04	**Alarm Follow (Latched - Restore on user Disarm)** UO is immediately activated when the system goes into any type of alarm (i.e. intrusion, fire, keypad-initiated panic). UO remains active (latched) for the duration of the alarm-even after the system's bell "times out" UO is deactivated when the system is disarmed.
05	**Alarm Follow (Pulse)** UO is immediately activated for several seconds and then deactivated whenever the system goes into any type of alarm (i.e., intrusion, fire, keypad-initiated panic).
06	**Zone 1 Alarm Follow (Latched)** UO is immediately activated when an alarm occurs on Zone 1. UO remains active (latched) for the duration of the alarm - even after the system sounder "times out". UO is deactivated when Zone 1 goes into normal condition.
07	**Zone 1 Alarm Follow (Pulsed)** UO is immediately activated for several seconds (pulsed) and then deactivated whenever Zone 1 goes into alarm.
08	**Zone 2 Alarm Follow (Latched)**
09	**Zone 2 Alarm Follow (Pulsed)**
0A	**Zone 3 Alarm Follow (Latched)**
0B	**Zone 3 Alarm Follow (Pulsed)**
0C	**Zone 4 Alarm Follow (Latched)**
0D	**Zone 4 Alarm Follow (Pulsed)**
0E	**Zone 5 Alarm Follow (Latched)**
0F	**Zone 5 Alarm Follow (Pulsed)**
10	**Zone 6 Alarm Follow (Latched)**
11	**Zone 6 Alarm Follow (Pulsed)**
12	**Zone 7 Alarm Follow (Latched)**
13	**Zone 7 Alarm Follow (Pulsed)**
14	**Zone 8 Alarm Follow (Latched)**
15	**Zone 8 Alarm Follow (Pulsed)**
16	**Zone 9 Alarm Follow (Latched)**
17	**Zone 9 Alarm Follow (Pulsed)**
18	**Zone 10 Alarm Follow (Latched)**
19	**Zone 10 Alarm Follow (Pulsed)**
1A	**Zone 11 Alarm Follow (Latched)**
1B	**Zone 11 Alarm Follow (Pulsed)**
1C	**Zone 12 Alarm Follow (Latched)**

Digit	Event and Result
1D	**Zone 12 Alarm Follow (Pulsed)**
1E	**Zone 13 Alarm Follow (Latched)**
1F	**Zone 13Alarm Follow (Pulsed)**
20	**Zone 14 Alarm Follow (Latched)**
21	**Zone 14 Alarm Follow (Pulsed)**
22	**Panic Follow (Latched)** UO is activated immediately when a PANIC alarm is triggered by a violation of a zone, defined as Panic, or by pressing the keypad's **[1]** and **[2]** keys simultaneously for two seconds. UO is deactivated when the system is disarmed.
23	**Panic Follow (Pulse)** UO is activated for several seconds when a PANIC alarm is triggered by a violation of a zone, defined as Panic, or by pressing the keypad's **[1]** and **[2]** keys simultaneously for two seconds.
24	**Special Emergency Keying Follow (Latched)** UO is activated immediately when pressing the keypad's **[7]** and **[8]** keys simultaneously for two seconds. UO is deactivated when the system is disarmed.
25	**Special Emergency Keying Follow (Pulsed)** UO is activated for several seconds when pressing the keypad's **[7]** and **[8]** keys simultaneously for two seconds.
26	**Fire Keying Follow (Latched)** UO is activated immediately when a Fire alarm is triggered by a violation of zone 5, defined as Fire, or by pressing the keypad's **[4]** and **[5]** keys simultaneously for two seconds. UO is deactivated when the system is disarmed.
27	**Fire Keying Follow (Pulse)** UO is activated when a Fire alarm is triggered by a violation of zone 5, defined as Fire, or by pressing the keypad's **[4]** and **[5]** keys simultaneously for two seconds.
28	**User Activated (Toggle)** UO may be activated by the user through the entry of **[*]+[2]+[User Code]+[X**], where X refers to the Utility Output number. The first entry of the above sequence activates the UO and causes it to latch in the opposite of its current state. The system briefly lights the Zone LED corresponding to the selected UO and produces a single confirming beep. Subsequent entries toggle the response between ON and OFF.
29	**User Activated (Pulse)** UO may be activated by the user through the entry of **[*]+[2]+[User Code]+[X],** where X refers to the Utility Output number. The entry activates the UO for several seconds (pulse). The system briefly lights the Zone LED corresponding to the selected UO and produces a single confirming beep. Subsequent entries repeat this pattern.

Digit	Event and Result
2A	**AUX POWER Switch (Fire)** Until triggered, UO is normally activated and is designed to be a part of the circuit supplying power to the smoke detector(s); see page 8. After a Fire Alarm is disarmed, it may be necessary to reset any smoke detector(s), which may be "latched" in alarm. A "latched" smoke detector will cause the keyboard's Fire LED to remain lit, even though the panel may be disarmed. To reset a Smoke Detector, a "UO" used in this manner must be momentarily deactivated. This action is performed by the user, who must enter **[*]+[2]+[User Code]+[X]**, where [X] refers to the UO number in the circuit providing Smoke Detector power. If this is not done, it will be impossible to arm the panel. Please advise your customer of this contingency, as stated in the *ORBIT-14's User's Manual*.
2B	**Duress Code Follow (Latched)** UO is activated when any duress code is entered. The UO is deactivated either when arming the system or disarming the system due to an alarm that was activated from the emergency keypad keys, 24-hour zone violation or tamper zone violation.
2C	**Duress Code Follow (Pulse)** UO is activated for several seconds (and is then deactivated) when any duress code is entered.
2D	**AC Loss Follow (Latched)** UO is activated due to a lack of power from the commercial AC. UO is deactivated when the system is operating properly from commercial (AC) power.
2E	**AC Loss Follow (Pulse)** UO is activated for several seconds (and is then deactivated) due to a lack of power from the commercial AC.
2F	**Low Battery Follow (Latched)** UO is activated when the rechargeable standby battery has insufficient reserve capacity and the voltage decreases to 11.5V. The UO is deactivated when the battery is in good condition.
30	**Low Battery Follow (Pulse)** UO is activated for several seconds when the rechargeable standby battery has insufficient reserve capacity and the voltage decreases to 11.5V.
31	**Phone line trouble (Latched)** UO is activated when a telephone line fault is detected. The UO is deactivated after the telephone line fault has been corrected.
32	**Phone line trouble (Pulsed)** UO is activated for several seconds when a telephone line fault is detected.
33	**Voice Module Enable** The UO is activated after FM phone number dialling has been made due to alarm and causes to a repeatedly pre-recorded message announcement. The UO is deactivated after the FM period termination.
34	**Chime Follow (Pulse)** UO is activated for several seconds whenever a keypad sounds its chime.
35	**Bell Follow Latched NO** UO is activated whenever the bell is activated. UO is deactivated at the bell cut-off time.
36	**Bell Follow Latched NC** UO is deactivated whenever the bell is activated. UO is activated at the bell cut-off time.

Digit	Event and Result
37	**Ready Follow NO (Latched)** UO is activated whenever the system is in the ready state.
38	**Ready follow NO (Pulsed)** UO is activated for several seconds whenever the system is in the ready state.
39	**Ready follow, NC (latched)** UO is deactivated whenever the system is in the ready state.
3A	**Ready follow, NC (Pulsed)** UO is deactivated for several seconds whenever the system is in the ready state.

Utility Outputs Default:		
Utility Output	**Location**	**Type**
UO1	046	04
UO2	047	03
UO3 – UO6	048 - 051	00

Communication Parameters: Locations 052-055

Locations 052 to 055 allow you to define the manner in which the ORBIT-14 communicates with the Central Station when it reports alarms, restorals, troubles, openings/closings, and tests.

Locations 054 and 055 allow you define the communication format as defined by the Central Station (CS).

Dialler Control 1: Location 052

- **First digit**: Determines the number corresponding to the Dialling Method, Duty Cycle and Central Station retries.
- **Second digit**: Determines the number corresponding to the Redial Wait, Answering Machine Override and Stop Follow Me authorization.

Comments on Dialler Control 1: (Location 052: 1st Digit)

Dialling Method	Duty Cycle	MS Retries
Used to select the dialling method, Pulsed or DTMF. When selecting the dialling method, your choice must be compatible with the type of phone service available at the protected premises. For pulse dialling method 2 option are available: 10 PPS (Pulse Per Second) or 20 PPS.	For pulse dialling, choose the proper dialling duty cycle. 67/33%: Typically used in European telephone systems. 61/39%: Typically used in USA telephone systems.	The number of times the ORBIT-14 redials the Central Station after failing to establish a successful communication.

Comments on Dialler Control 1: (Location 052: 2nd Digit)

Redial Wait	Answering Machine Override	Follow Me Enable
The number of seconds between attempts at redialling the same phone number when it is busy or unresponsive. Applies to both the MS Retries and FM Retries parameters.	**Yes**: The Answering Machine Override is enabled, as follows: The Upload/Download software at the alarm company calls the account. The software hangs up after one ring by the U/D operator. Within one minute, the software calls again. The ORBIT-14 is programmed to pick up this second call on the first ring, thus bypassing any interaction with the answering machine. **NOTE:** This feature is used to prevent interference from an answering machine with remote Upload/Download operations. **No**: The Answering Machine Override is disabled, and communication takes place in the standard manner.	**Yes**: Enables Follow Me communication. In addition to reporting to the Central Station, the ORBIT-14 has a Follow-Me feature, in which a standard phone call is made to a designated phone number, reporting a system event. The Follow Me can convey a series of tones representing an alarm; it can send numeric or alphanumeric data to a page to display a specific event; or it can send pre-recorded voice messages using the voice module. **No**: Disables Follow Me communication. **NOTE:** If both MS phones and FM phones are defined, the system will first call the MS phones and then the FM phones.

Location: 052	Dialler Controls 1: (1st Digit):		
1st Digit	**Dialling Method**	**Duty Cycle**	**MS Retries**
0	DTMF	N/A	3
1	Pulse @ 20 pps	67/33	3
9	Pulse @ 20 pps	67/33	8
8 (Default)	DTMF	N/A	8
5	Pulse @ 20 pps	61/39	3
D	Pulse @ 20 pps	61/39	8
3	Pulse @ 10 pps	67/33	3
B	Pulse @ 10 pps	67/33	8
7	Pulse @ 10 pps	61/39	3
F	Pulse @ 10 pps	61/39	8

Location: 052	Dialler Controls 1: (2nd Digit):		
2nd Digit	**Redial Wait**	**Answering Machine**	**Follow Me Enable**
0	Immediate	No	No
1	20	No	No
2	30	No	No

Location: 052	Dialler Controls 1: (2nd Digit):		
2nd Digit	Redial Wait	Answering Machine	Follow Me Enable
3	60	No	No
4	Immediate	Yes	No
5	20	Yes	No
6	30	Yes	No
7	60	Yes	No
8	Immediate	No	Yes
9	20	No	Yes
A	30	No	Yes
B	60	No	Yes
C	Immediate	Yes	Yes
D	20	Yes	Yes
E (Default)	30	Yes	Yes
F	60	Yes	Yes

Dialler Control 2: Location 053

- **First digit**: Not applicable, Always "0"
- **Second digit**: Determines whether:
  1. The ORBIT-14 is connected to a telephone and if the line is supervised. If the telephone line is cut for more than four minutes, supervision causes phone line trouble.
  2. The dialler waits for a dial tone before it starts dialling.

Location: 053	Dialler Controls 2: (2nd Digit):	
2nd Digit	Wait for Dial Tone	Telephone Connection and Supervision
0	No	No
1	No	Yes
2	Yes	No
3 (Default)	Yes	Yes

Central Station Pulsed Protocols: Location 054

The code format of the central station protocols is based on the following information.

- **First digit**: Determines the number corresponding to the desired combination of: Kissoff/Handshake Freq / Message Validation / Extended-Non-Extended Format.
- **Second digit**: Determines the number (or letter) corresponding to the desired combination of: Dialling Rate / Intrepidity Time / Data Frequency.

NOTE:

The pulsed protocol definition is only applicable if the value "00", which represents a "Pulsed Protocol" format, is entered in location 55.

Location: 054	Pulsed CS Protocols: (1st Digit):

1st Digit	Format	Kissoff/Handshake Freq	Message Validation
0 (Default)	Non-Extended	1400 Hz	Dual Round Compare
1	Non-Extended	2300 Hz	Dual Round Compare
2	Non-Extended	1400 Hz	Parity
3	Non-Extended	2300 Hz	Parity
4	Extended	1400 Hz	Dual Round Compare
5	Extended	2300 Hz	Dual Round Compare
6	Extended	1400 Hz	Parity
7	Extended	2300 Hz	Parity

Location: 054	Pulsed CS Protocols: (2nd Digit):

2nd Digit	Data Rate	Interdigit Time	Data Frequency
0 (Default)	40 pulses/sec	390 ms	1800 Hz
1	33 pulses/sec	390 ms	1800 Hz
2	20 pulses/sec	390 ms	1800 Hz
3	10 pulses/sec	390 ms	1800 Hz
4	40 pulses/sec	650 ms	1800 Hz
5	33 pulses/sec	650 ms	1800 Hz
6	20 pulses/sec	650 ms	1800 Hz
7	10 pulses/sec	650 ms	1800 Hz
8	40 pulses/sec	390 ms	1900 Hz
9	33 pulses/sec	390 ms	1900 Hz
A	20 pulses/sec	390 ms	1900 Hz
B	10 pulses/sec	390 ms	1900 Hz
C	40 pulses/sec	650 ms	1900 Hz
D	33 pulses/sec	650 ms	1900 Hz
E	20 pulses/sec	650 ms	1900 Hz
F	10 pulses/sec	650 ms	1900 Hz

Central Station Pulsed Protocols Communication Formats

Refer to the information in the table below and enter a 2-digit format code corresponding to the pulsed communication protocol required by the central station receiver associated with the MS telephone number.

Format Name	PPS (pulses /sec)	Kissoff/ Handshake	Validation	InterDigit Time	Code Format
Silent Knight/ ADEMCO Slow	10	1400Hz	Dual round	650	0F
Silent Knight/ ADEMCO Slow Extended	10	1400Hz	Dual round	650	4F
Radionics/DCI/ Franklin slow	10	2300 Hz	Dual round	650	17
Silent Knight Fast	20	1400 Hz	Dual round	650	0E
Silent Knight Fast Extended	20	1400 Hz	Dual round	650	4E
Sescoa/Franklin/Vertix/ DCI fast	20	2300Hz	Dual round	650	16
Sescoa/Franklin/Vertix/DCI Extended	20	2300Hz	Dual round	650	56
Universal high speed	20	2300Hz	Dual round	390	12
Radionics	20	1400 Hz	Dual round	390	02
Radionics	20	2300Hz	Dual round	390	12
Radionics Extended	20	1400 Hz	Dual round	390	42
Radionics Extended	20	2300Hz	Dual round	390	52
Radionics	40	1400 Hz	Dual round	390	00
Radionics	40	2300Hz	Dual round	390	10
Radionics Extended	40	1400 Hz	Dual round	390	40
Radionics Extended	40	2300Hz	Dual round	390	50
Radionics	40	1400 Hz	Parity	390	20
Radionics	40	2300Hz	Parity	390	30
Radionics Extended	40	1400 Hz	Parity	390	60
Radionics Extended	40	2300Hz	Parity	390	70

For example, enter 0F in location 054 to use ADEMCO Slow.

Automatic Central Station Protocols: Location 055

When selecting any of the formats, all the reporting codes will be automatically applied to the locations of the reporting codes.

To change a code, enter a new code (according to the type of event – see page 48) to the corresponding location.

When selecting the Pulsed Protocol, the default for all the reported codes will be “00” and any other code should be entered manually.

To remove a particular reporting code from any of the seven Protocols, enter “00” into the corresponding location.

IMPORTANT:

Choose the code format only after defining the zone parameters. Changing a zone type after selecting the code format **WILL NOT** change the zone’s reporting code and a faulty report will be sent to the central station.

Location: 055	Automatic CS Protocols:			
Digit	**Format Name**	**Inter digit Time**	**Data Frequency**	**Remarks**
00 (Default)	Pulsed Protocol			
01	Contact ID	NA	NA	-
02	Contact ID - Domestic	NA	NA	No Open/Close reports)
03	SIA (Level 1)	390 ms	1800 Hz	-
04	SIA - Domestic	390 ms	1800 Hz	No Open/Close reports)
05	Ademco 4/2 Express South Africa	NA	NA	Special values for the South African market.
06	Ademco 4/2 Express	NA	NA	-

Upload/Download Rings: Location 056

Location 056 sets the number of rings that the ORBIT-14 will wait before automatically answering an incoming call. If such a call was initiated by the alarm company's Upload/Download software, a process begins which allows a Remote Programming session to take place.

Location: 056	Number of Rings	Default: 08

Choose a number of rings greater than that which the customer will normally wait to answer an incoming call. Enter the number of rings (between 00-15).

NOTE:

If an Answering Machine is in use and so programmed, entries made in this location will be ignored (see Location 052 / 2nd Digit). 00 indicates an immediate connection without any rings.

Swinger Shutdown Limit: Location 057

Location: 057	Swinger Shutdown Limit	Default: 00

A swinger is a repeated violation of the same zone, often resulting in a nuisance alarm, and usually due to a malfunction, an environmental problem, or the incorrect installation of a detector or sensor.

This parameter specifies the number of violations of the same zone reported during a single armed period, before the zone is automatically bypassed.

Range: 00-15 times.

NOTE:

Enter **00** to disable the swinger shutdown.

Location: 058	Not Applicable

System Controls: Locations 059-060

Locations 059-060 allow you to specify some additional parameters, which determine how the ORBIT-14 will operate.

Location: 059	System Control 1	Default: 53

The location contains two digits:

- **First digit**: Determines the digit corresponding to the choices involving Quick Arm / Quick Bypass / Bypass Enable / Loudspeaker / Bell-Siren.
- **Second digit**: Determines the digit corresponding to the use of Silent Panic / Bell Squawk on Arming / UO Expander/ Voice Module.

Comments on System Control 1 (Location 059: 1st Digit)

Quick Arm	Quick Bypass	Bypass Enable	Loudspeaker/Bell-Siren
Yes: Eliminates the need to enter a User Code when arming to the Away or Group modes. **No**: A valid User Code is required for arming in AWAY or Group modes.	**Yes**: Eliminates the need for a valid User Code when bypassing zones. **No**: Qualified users must enter a valid User Code to bypass zones.	**Yes**: Permits zone bypassing by authorized system users after entering a valid User Code. **No**: Zone bypassing is NOT permitted.	**Loudspeaker:** If the external sounder(s) is NOT equipped with a built-in sound driver; doing so causes the ORBIT-14 to produce an oscillating frequency for the device. **Bell/Siren:** If the external sounder(s) is a bell or a buzzer or equipped with a built-in electronic sound driver.

Comments on System Control 1 (Location 059: 2nd Digit)

Silent Panic	Bell Squawk on Arming	UO Extender	Voice Module
Yes: The panic alarm will be INAUDIBLE at the External Sounder and invisible on the keypad. **No**: The panic alarm will be AUDIBLE at the External Sounder and visual on the keypad.	**Yes**: **Bell Squawk on Arming** will produce a brief confirmation "chirp" from the system's external sounder(s) once the system is armed and the Exit Delay expires. **No**: No confirmation chirp from the system external sounders when arming the system.	**Yes**: A Utility Output Expansion Module is installed. The maximum number of Utility Outputs in the system is 6. **No**: A Utility Output expansion module is not installed. The maximum number of Utility Outputs in the system is 3.	**Yes**: Voice messages will be sent. **No**: Tones will be used to represent an active alarm.

Location: 059	System Controls 1: (1st Digit):			
1st Digit	Loudspeaker/Bell-Siren	Bypass Enable	Quick Bypass	Quick Arm
0	Bell-Siren	No	No	No
1	Bell-Siren	No	No	Yes
2	Bell-Siren	No	Yes	No
3	Bell-Siren	No	Yes	Yes
4	Bell-Siren	Yes	No	No
5 Default	Bell-Siren	Yes	No	Yes
6	Bell-Siren	Yes	Yes	No
7	Bell-Siren	Yes	Yes	Yes
8	Loudspeaker	No	No	No
9	Loudspeaker	No	No	Yes
A	Loudspeaker	No	Yes	No
B	Loudspeaker	No	Yes	Yes
C	Loudspeaker	Yes	No	No
D	Loudspeaker	Yes	No	Yes
E	Loudspeaker	Yes	Yes	No
F	Loudspeaker	Yes	Yes	Yes

Location: 059	System Controls 1: (2nd Digit):			
2nd Digit	Voice Module	UO Extender	Bell Squawk on Arm	Silent Panic
0	Disabled	No	No	No
1	Disabled	No	No	Yes
2	Disabled	No	Yes	No
3 (Default)	Disabled	No	Yes	Yes
4	Disabled	Yes	No	No
5	Disabled	Yes	No	Yes
6	Disabled	Yes	Yes	No
7	Disabled	Yes	Yes	Yes
8	Enabled	No	No	No
9	Enabled	No	No	Yes
A	Enabled	No	Yes	No
B	Enabled	No	Yes	Yes
C	Enabled	Yes	No	No
D	Enabled	Yes	No	Yes
E	Enabled	Yes	Yes	No
F	Enabled	Yes	Yes	Yes

Location: 060	System Control 2	Default: 11

The location contains two digits:

- **First digit**: Determines the digit corresponding to the choices involving 3-minute bypass / IMQ Installation bit / Czech installation bit / UL installation bit.
- **Second digit**: Determines the digit corresponding to the use of Auto arming Pre-Warning / Alarm restore.

Comments on System Control 2 (Location 060: 1st Digit)

3 Minute Bypass	IMQ Installation	Czech installation	UL installation
Yes: All zones will be automatically bypassed for 3 minutes when power is restored to an "unpowered" system. This prevents potential false alarms by allowing time for the stabilization of motion and/or smoke detectors. **No**: No bypassing occurs.	**Yes**: Causes the following parameters to function as follows: •An open zone during Auto Arming will activate an alarm and the system will not be armed. •UO Arm Follow (Pulsed or Latched). UO will be activated immediately, regardless of the Exit Delay time. •AC loss report and UO follow AC loss are activated after a delay of 30 minutes. **No**: •Auto Arming – An open zone during auto-arming will be bypassed and the system will be armed. •UO arm follow (Pulsed or Latched). UO will be activated after the Exit Delay time. •AC loss report and UO follow AC loss will be activated immediately.	**Yes**: The ORBIT-14 is installed in accordance with the Czech telephony requirements. **No**: No features are changed.	**Yes**: The ORBIT-14 is installed in accordance with UL requirements for a Residential Installation (UL 1641). Operation of the unit's Digital Communicator must be modified to disable features which are inappropriate for UL listed installations. This feature disables the use of Upload/ Download and permits a status display only when remotely accessed. **No**: No features are disabled.

Comments on System Control 2 (Location 060: 2nd Digit)

Arm Pre-Warning	Alarm Restore
Yes: When the system is Auto Armed, an audible Exit Delay (warning) countdown will commence 4 minutes prior to the automatic arming. During this period, Exit Delay beeps will be heard in the keypads. **No**: There is no Arm Pre-Warning for the Auto Arming feature.	**Yes**: The system will send an alarm restore after the audible alarm "times out" (BTO=Bell Time Out). **No**: The system will send an alarm restore when the zone responsible for the alarm returns to its non-violated (secured) state.

Location: 060	System Controls 2: (1st Digit):			
1st Digit	UL installation	Czech installation	IMQ Installation	3 Minute Bypass
0	No	No	No	No
1 (Default)	No	No	No	Yes
2	No	No	Yes	No
3	No	No	Yes	Yes
4	No	Yes	No	No
5	No	Yes	No	Yes
6	No	Yes	Yes	No
7	No	Yes	Yes	Yes
8	Yes	No	No	No
9	Yes	No	No	Yes
A	Yes	No	Yes	No
B	Yes	No	Yes	Yes
C	Yes	Yes	No	No
D	Yes	Yes	No	Yes
E	Yes	Yes	Yes	No
F	Yes	Yes	Yes	Yes

Location: 060	System Controls 2: (2nd Digit):	
2nd Digit	Alarm Restore	Auto Arm Pre-Warning
0	BTO	No
1 (Default)	BTO	Yes
2	Zone Restore	NO
3	Zone Restore	Yes

Sub Installer Restriction Level: Location 061

The Sub Installer can be defined with two different authority levels. Each level restricts him from programming different locations in the ORBIT-14.

Location: 061	Sub Installer Restriction Level	Default: 01

Digit	Description
00	Low: The Sub installer is unable to modify the following locations: 000-008, 056-058,061
01 (Default)	High: Use this option for greater restriction of the sub installer programming options. The Sub installer is unable to modify the following locations: 000-008, 046-058, 061-161.

Communicator Reporting Codes: Locations 062-168

Locations 062 -168 enable you to program the codes that will be transmitted by the ORBIT-14 to the Central Station.

To prevent the corresponding event from being reported, use a “double-zero” (00, the default) in the location.

Reporting Codes for Alarm Events

Location	Description	Digits	Default	Report Code
062	Zone 1 Alarm Reporting code	2	00	
063	Zone 2 Alarm Reporting code	2	00	
064	Zone 3 Alarm Reporting code	2	00	
065	Zone 4 Alarm Reporting code	2	00	
066	Zone 5 Alarm Reporting code	2	00	
067	Zone 6 Alarm Reporting code	2	00	
068	Zone 7 Alarm Reporting code	2	00	
069	Zone 8 Alarm Reporting code	2	00	
070	Zone 9 Alarm Reporting code	2	00	
071	Zone 10 Alarm Reporting code	2	00	
072	Zone 11 Alarm Reporting code	2	00	
073	Zone 12 Alarm Reporting code	2	00	
074	Zone 13 Alarm Reporting code	2	00	
075	Zone 14 Alarm Reporting code	2	00	
076	Keypad Fire Alarms Reporting code	2	00	
077	Keypad Panic Reporting code	2	00	
078	Keypad Special Emergency Reporting code	2	00	
079	Tamper Alarm in zone 1 / 9	2	00	
080	Tamper Alarm in zone 2 / 10	2	00	
081	Tamper Alarm in zone 3 / 11	2	00	
082	Tamper Alarm in zone 4 / 12	2	00	
083	Tamper Alarm in zone 5 / 13	2	00	
084	Tamper Alarm in zone 6 / 14	2	00	
085	General tamper alarm (Box / Bell /Keypad)	2	00	

Restore Codes

An ORBIT-14 Restoral Report informs the Central Station that the external sounder’s operation, initially triggered by the respective alarm condition, has either “timed out” or been silenced by the act of system disarming. Be sure to check with Central Station personnel if restorals are permitted and, if so, what codes are required.

Reporting Codes for Restore Alarm Events

Location	Description	Digits	Default	Report Code
086	Zone 1 Restoral Code	2	00	
087	Zone 2 Restoral Code	2	00	
088	Zone 3 Restoral Code	2	00	
089	Zone 4 Restoral Code	2	00	
090	Zone 5 Restoral Code	2	00	
091	Zone 6 Restoral Code	2	00	
092	Zone 7 Restoral Code	2	00	
093	Zone 8 Restoral Code	2	00	
094	Zone 9 Restoral Code	2	00	
095	Zone 10 Restoral Code	2	00	
096	Zone 11 Restoral Code	2	00	
097	Zone 12 Restoral Code	2	00	
098	Zone 13 Restoral Code	2	00	
099	Zone 14 Restoral Code	2	00	
100	Keypad Fire Restoral Code	2	00	
101	Keypad Panic Restoral Code	2	00	
102	Keypad Special Emergency Restoral Code	2	00	
103	Restore tamper from zones 1 / 9	2	00	
104	Restore tamper from zones 2 / 10	2	00	
105	Restore tamper from zones 3 / 11	2	00	
106	Restore tamper from zones 4 / 12	2	00	
107	Restore tamper from zones 5 / 13	2	00	
108	Restore tamper from zones 6 / 14	2	00	
109	General tamper restore (Box / Bell / Keypad)	2	00	

Other Reporting Codes

Location	Description	Digits	Default	Report Code
110	Report code used when the system's periodic central station (CS) test transmission take place	2	00	
111	User 0 arm (the "Master" Code, "Quick Arm", "Keyswitch" Arm or Remote arming)	2	00	
112	User 1 arm Reporting code	2	00	
113	User 2 arm Reporting code	2	00	
114	User 3 arm Reporting code	2	00	
115	User 4 arm Reporting code	2	00	
116	User 5 arm Reporting code	2	00	
117	User 6 arm Reporting code	2	00	
118	User 7 arm Reporting code	2	00	
119	User 8 arm Reporting code	2	00	

Location	Description	Digits	Default	Report Code
120	User 9 arm Reporting code	2	00	
121	User 10 arm Reporting code	2	00	
122	User 11 arm Reporting code	2	00	
123	User 12 arm Reporting code	2	00	
124	User 13 arm Reporting code	2	00	
125	User 14 arm Reporting code	2	00	
126	User 15 arm Reporting code	2	00	
127	User 16 arm Reporting code	2	00	
128	User 17 arm Reporting code	2	00	
129	User 18 arm Reporting code	2	00	
130	User 19 arm Reporting code	2	00	
131	Forced arm Reporting code (when the system is armed with a bypassed zone)	2	00	
132	Group/s arming Reporting code	2	00	
133	Auto arm reporting code	2	00	
134	User 0, disarm Reporting code by master code, quick arm, key-switch or remote arming.	2	00	
135	User 1 disarm Reporting code	2	00	
136	User 2 disarm Reporting code	2	00	
137	User 3 disarm Reporting code	2	00	
138	User 4 disarm Reporting code	2	00	
139	User 5 disarm Reporting code	2	00	
140	User 6 disarm Reporting code	2	00	
141	User 7 disarm Reporting code	2	00	
142	User 8 disarm Reporting code	2	00	
143	User 9 disarm Reporting code	2	00	
144	User 10 disarm Reporting code	2	00	
145	User 11 disarm Reporting code	2	00	
146	User 12 disarm Reporting code	2	00	
147	User 13 disarm Reporting code	2	00	
148	User 14 disarm Reporting code	2	00	
149	User 15 disarm Reporting code	2	00	
150	User 16 disarm Reporting code	2	00	
151	User 17 disarm Reporting code	2	00	
152	User 18 disarm Reporting code	2	00	
153	User 19 disarm Reporting code	2	00	
154	Duress Disarm	2	00	

Trouble Reports and Restorals

Location	Description	Digits	Default	Report Code
155	Low Battery Reporting code	2	00	
156	Loss of AC Power (for at least 15 min)	2	00	
157	Fire zone trouble	2	00	
158	Bell Loop Interrupted	2	00	
159	Clock not set	2	00	
160	Phone line cut	2	00	
161	Day zone trouble	2	00	
162	Low Battery restore	2	00	
163	Loss of AC Power restore	2	00	
164	Fire zone trouble Restore	2	00	
165	Bell Loop Restore	2	00	
166	Clock not set restore	2	00	
167	Phone line cut Restore	2	00	
168	Day zone trouble Restore	2	00	

Appendix 1: Installer Programming Worksheet

Customer _____
Address _____
City _____ State _____ Zip _____
Customer Phone No: ( ) _____
Comments: _____

Central Station Account No: _____
Date of Installation: _____
Installer(s): _____
Comments: _____
_____

Location	Description	Entry
000	Default Disable	
001	MS LOCK	
002	Phone No. CS 1	See below
003	Phone No. CS 2	See below
004	UD Call back	See below
005	Account No.	
006	Access Code	
007	Remote ID Code	
008	Installer Code 1	
009	Installer Code 2	
010	Master Code	
011	Exit Delay	
012	Entry Delay	
013	Bell Cutoff Time	
014	Bell Delay	
015	Periodic test time	
016	Periodic test interval	
017	Zone 1: type + sound	
018	Zone 2: type + sound	
019	Zone 3: type + sound	
020	Zone 4: type + sound	
021	Zone 5: type + sound	
022	Zone 6: type + sound	
023	Zone 7: type + sound	
024	Zone 8: type + sound	
025	Zone 9: type + sound	
026	Zone 10: type + sound	
027	Zone 11: type + sound	
028	Zone 12: type + sound	
029	Zone 13: type + sound	
030	Zone 14: type + sound	
031	Zone 1: Loop R. + Level	
032	Zone 2: Loop R. + Level	
033	Zone 3: Loop R. + Level	
034	Zone 4: Loop R. + Level	
035	Zone 5: Loop R. + Level	
036	Zone 6: Loop R. + Level	
037	Zone 7: Loop R. + Level	
038	Zone 8: Loop R. + Level	
039	Zone 9: Loop R. + Level	
040	Zone 10: Loop R. + Level	
041	Zone 11: Loop R. + Level	

Location	Description	Entry
042	Zone 12: Loop R. + Level	
043	Zone 13: Loop R. + Level	
044	Zone 14: Loop R. + Level	
045	Zone termination + tamper sound	
046	Utility Output 1 type	
047	Utility Output 2 type	
048	Utility Output 3 type	
049	Utility Output 4 type	
050	Utility Output 5 type	
051	Utility Output 6 type	
052	Dialler Control 1	
053	Dialler Control 2	
054	MS Pulsed protocol	
055	MS Auto protocol	
056	U/D Rings	
057	Swinger Shut down	
058	NA	
059	System Control 1	
060	System Control 2	
061	Sub Installer level	
062	Zone 1 Alarm	
063	Zone 2 Alarm	
064	Zone 3 Alarm	
065	Zone 4 Alarm	
066	Zone 5 Alarm	
067	Zone 6 Alarm	
068	Zone 7 Alarm	
069	Zone 8 Alarm	
070	Zone 9 Alarm	
071	Zone 10 Alarm	
072	Zone 11 Alarm	
073	Zone 12 Alarm	
074	Zone 13 Alarm	
075	Zone 14 Alarm	
076	Keypad Fire Alarm	
077	Keypad Panic Alarm	
078	Keypad Special Alarm	
079	Tamper zone 1 / 9	
080	Tamper zone 2 / 10	
081	Tamper zone 3 / 11	
082	Tamper zone 4 / 12	
083	Tamper zone 5 / 13	

Location	Description	Entry	
084	Tamper zone 6 / 14		
085	Tamper Box / Bell / KP		
086	Zone 1 Restore		
087	Zone 2 Restore		
088	Zone 3 Restore		
089	Zone 4 Restore		
090	Zone 5 Restore		
091	Zone 6 Restore		
092	Zone 7 Restore		
093	Zone 8 Restore		
094	Zone 9 Restore		
095	Zone 10 Restore		
096	Zone 11 Restore		
097	Zone 12 Restore		
098	Zone 13 Restore		
099	Zone 14 Restore		
100	Keypad Fire Restore		
101	Keypad Panic Restore		
102	Keypad Special Restore		
103	Tamp. zone 1/ 9 restore		
104	Tamp. zone 2/10 restore		
105	Tamp. zone 3/11 restore		
106	Tamp. zone 4/12 restore		
107	Tamp. zone 5/13 restore		
108	Tamp. zone 6 /14 restore		
109	Tamp. Box /Bell /Keypad restore		
110	Periodic Time Test		
111	User 0 arm		
112	User 1 arm		
113	User 2 arm		
114	User 3 arm		
115	User 4 arm		
116	User 5 arm		
117	User 6 arm		
118	User 7 arm		
119	User 8 arm		
120	User 9 arm		
121	User 10 arm		
122	User 11 arm		
123	User 12 arm		
124	User 13 arm		
125	User 14 arm		
126	User 15 arm		

Location	Description	Entry	
127	User 16 arm		
128	User 17 arm		
129	User 18 arm		
130	User 19 arm		
131	Forced Arm		
132	Level arming		
133	Auto Arm		
134	User 0 Disarm		
135	User 1 Disarm		
136	User 2 Disarm		
137	User 3 Disarm		
138	User 4 Disarm		
139	User 5 Disarm		
140	User 6 Disarm		
141	User 7 Disarm		
142	User 8 Disarm		
143	User 9 Disarm		
144	User 10 Disarm		
145	User 11 Disarm		
146	User 12 Disarm		
147	User 13 Disarm		
148	User 14 Disarm		
149	User 15 Disarm		
150	User 16 Disarm		
151	User 17 Disarm		
152	User 18 Disarm		
153	User 19 Disarm		
154	Duress Disarm		
155	Low Battery		
156	AC Loss		
157	Fire Trouble		
158	Bell Loop trouble		
159	Clock not set		
160	Phone line cut trouble		
161	Day zone trouble		
162	Low Battery restore		
163	AC Loss restore		
164	Fire Trouble restore		
165	Bell Loop trouble restore		
166	Clock not set restore		
166	Clock not set restore		
167	Phone line cut restore		
168	Day zone restore		

Location	Description	Phone Number (32 Digit max)
02	MS Phone 1	
03	MS Phone 2	
04	UD Call back	

Appendix 2: Contact ID & SIA Report Codes for Orbit-14

Event Reporting Format	Contact ID		SIA (Level 1)	
Zones Alarms/Disarm	**Program Digit**	**Code**	**Program Digit**	**Code**
Exit/Entry Alarm	01	134	01	BA
Exit/Entry Restore	01	134	02	BH
Burglary Zone Alarm	03	130	03	BA
Burglary Zone Restore	03	130	04	BH
24 Hour Zone Alarm	05	133	05	BA
24 Hour Zone Restore	05	133	06	BH
Tamper Zone Alarm	07	137	07	TA
Tamper Zone Restore	07	137	08	TR
Smoke Zone Alarm/Restore	09	111		
Combustion Zone Alarm/Restore	1A	112		
Water Flow Zone Alarm/Restore	11	113	11	WA
Heat Zone Alarm	12	114	12	KA
Heat Zone Restore	12	114	13	KH
Duct Zone Alarm/Restore	14	116		
Flame Zone Alarm/Restore	15	117		
Panic Zone Alarm Restore				
Silent Alarm	16	122		
Audible Alarm	17	123		
Perimeter Zone Alarm/Restore	18	131	18	NL
Interior Zone Alarm/Restore	19	132		
Day/Night Zone Alarm/Restore	2A	135		
Outdoor Zone Alarm/Restore	21	136		
General Alarm/Restore	22	140		
Sensor Tamper Alarm	23	144	23	TA
Sensor Tamper Restore	23	144	24	TR
24 Hour Non Burg Alarm/Restore	24	150		
Gas Detected Alarm	25	151	25	GA
Gas Detected Restore	25	151	26	GH
Refrigeration Zone Alarm/Restore	27	152		
Loss of Heat Alarm/Restore	28	153		
Water Leakage Alarm	29	154	29	WA
Water Leakage Restore	29	154	3A	WH
Foil Break Alarm/Restore	31	155		
Low Battled Gas level Alarm/Restore	32	157		
High Temperature Alarm/Restore	33	158	33	DA

Event Reporting	Contact ID		SIA (Level 1)	
Zones Alarms/Disarm	**Program Digit**	**Code**	**Program Digit**	**Code**
Low Temperature Alarm/Restore	34	159	34	DA
Loss of Air Flow	35	161	35	DB
Special				
Special Emergency Key Alarm	4A	100	4A	MA
Special Emergency Key Restore	4A	100	41	MH
Fire Zone Alarm	42	110	42	FA
Fire Zone Restore	42	110	43	FH
Fire Key Alarm	44	115	44	FA
Fire Key Restore	44	115	45	FH
Panic Key Alarm	46	120	46	PA
Panic Key Restore	46	120	47	PH
Duress Alarm	48	121	48	HA
Duress Restore	48	121	49	HH
Troubles				
AC Trouble	5A	301	5A	AT
AC Restore	5A	301	51	AR
Low Battery Trouble	52	302	52	YT
Low Battery Restore	52	302	53	YR
Main Bell Trouble	54	321	54	YA
Main Bell Restore	54	321	55	YH
Fire Trouble	56	373	56	FT
Fire Restore	56	373	57	FJ
Clock Not Set	00	-	00	-
Clock Set	00	-	00	-
Phone Line Trouble	58	351	58	LT
Phone Line Restore	58	351	59	LR
Day Zone Trouble	5C	156	5C	UT
Day Zone Restore	5C	156	5D	UJ
O/C Access				
User Arm	6A	401	6A	CL
User Disarm	6A	401	61	OP
Quick Arm/Disarm - User 0	62	408	6A	CL
Forced Arm	63	574	63	CF
Periodic Test	64	602	64	RP
Auto Arm	65	403	65	CA

Appendix 3: Summary of User's Commands

Function	Procedure
System Arming	[User Code] + [Arm]
Group Arming	[User Code] + [Stay] + [Group #: 1,2, 3, 0=All Groups]
System Disarming	[User Code]
Duress Disarming	[Duress Code]
Silencing an Alarm	[User Code]
Bypassing / Unbypassing a Zone	[✶] + [1] + [User Code] + [2-digit zone number to be bypassed / unbypassed]
Quick Bypassing Zone	[✶] + [1] + [2-digit zone number to be bypassed / unbypassed]
Reset Smoke Detector(s)	[✶] + [2] + [User Code] + [Smoke Output No.]
Utility Output Operation	[✶] + [2] + [User Code] + [Utility Output No.]
Display Troubles	[✶] + [3]
Display Memory	[✶] + [4]
Setting/Changing a User Code	[✶] + [5] + [1] + [Master Code] + [2-digit User No. to be set/changed] + [New Code]
Setting User Authority Level	[✶] + [5] + [2] + [Master Code] + [2-digit User Number to be set/changed] + [Authority Level No.] 0 = User, 1 = User Un-Bypass, 2 = Maid, 3 = Service
Set Date	[✶] + [6] + [1] + [Master Code] + [MM] [DD] [YY]
Set Time	[✶] + [6] + [2] + [Master Code] + [HH] [MM]
Set Auto Arm Time	[✶] + [6] + [3] + [Master Code] + [HH] [MM]
Set Follow-Me Phone No. 1	[✶] + [7] + [1] + [Master Code] + Phone No. + [#]
Set Follow-Me Phone No. 2	[✶] + [7] + [2] + [Master Code] + Phone No. + [#]
Set Follow-Me Phone No. 3	[✶] + [7] + [3] + [Master Code] + Phone No. + [#]
Set Follow-Me Phone No. 4	[✶] + [7] + [4] + [Master Code] + Phone No. + [#]
Erase Follow-Me Phone No.	[✶] + [7] + [1 / 2 / 3 / 4] + [Master Code] + [#]
Maintenance: On/Off Buzzer On/Off Door Chime On/Off Audible Kiss-Off	[✶] + [8] + [Master Code] + [1] [✶] + [8] + [Master Code] + [2] [✶] + [8] + [Master Code] + [3]
Get Event From Event Logger (Only from LCD Keypad)	[✶] + [9] + [Master Code]
Test System	[✶] + [0] + [Master Code]

	LED	Trouble
Trouble Table	1	Low Battery
	2	AC Power Loss
	3	Clock Not Set
	4	Communication Trouble
	5	Bell Loop Trouble
	6	Phone line cut
	7	General Tamper (Bell/ Box/ Keypad)
	8	Day Zone Trouble

Notes

Notes

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